

major modifications have taken place. Seven, according to present findings, says Mr. Reygadas, mindful that two, three, four, five and six was what he once believed in.

From a maguey-covered hill several years ago, the pyramid of Tenayuca has come out of its chrysalis as one of the most interesting sites near Mexico City, and the most important Aztec site in the country. The final report now in prep-

aration will add more positive knowledge in the field of Aztec archaeology than that of any other one site.

The pyramid is now honeycombed with tunnels that circumviate and penetrate, and which are lighted with electric lights, protected by corrugated metal roofing, and sustained by beams, so that a model silent lecture on archaeology may be safely had while going through.

Science News Letter, July 4, 1931

ASTRONOMY

1932 Total Eclipse Will be Attraction for Vacationists

VACATION planners who look a whole year ahead can now figure on adding a total eclipse of the sun to the other thrills they seek. The eclipse of August 31, 1932, will cross considerable parts of New England and the Province of Quebec, both favorite vacation lands.

The official calculations of the path of the eclipse, together with weather information to aid in the selection of the best place, and a large scale map of the path, have just been issued by the United States Naval Observatory, Washington. The material has been published in pamphlet form, as a supplement to the American Ephemeris, which is the astronomer's bible. The supplement can be obtained for 25 cents from the Superintendent of Documents, Washington, D. C.

The exact path over which the moon's shadow will sweep has been calculated by Prof. James Robertson, director of the Nautical Almanac Office. It will cross Cape Cod, the northeastern corner of Massachusetts, all of New Hampshire but the southwestern third, the southern and western part of Maine, the northern part of Vermont and a large section of the Province of Quebec. Montreal and Portland are the largest cities within the path.

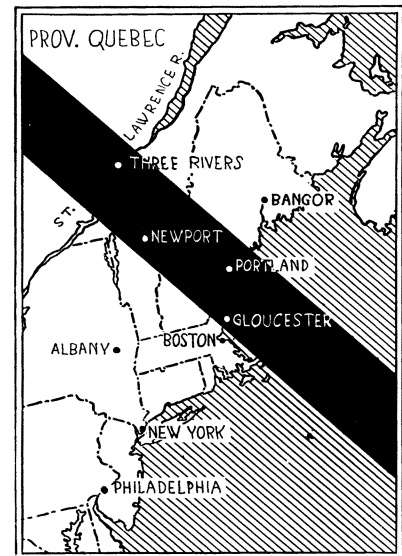
Other places near the center from which a good view should be obtained, are Saco and Alfred, Me.; North Conway and Lancaster, N. H.; Guildhall, Vt.; Waterloo, St. Gabriel and Sorel, P. Q. At these places the sun will be obscured by the moon for nearly the full duration of one minute and forty seconds.

Places a little farther from the center line where the eclipse will last for about a minute or more are: Glou-

cester and Newburyport, Mass.; Auburn and Paris, Me.; Dover, Rochester, Farmington, Ossipee, Wolfboro, Littleton and Colebrook, N. H.; St. Johnsbury and Newport, Vt.; Sherbrook, Farnham and Three Rivers, P. Q.

On the afternoon of Wednesday, August 31, the shadow of the moon will sweep down from the northwest. About 3:23 p. m., eastern standard time, it will reach the St. Lawrence River. At 3:32 p. m., it will reach Cape Cod, which will be the last land to see it. Then the shadow will sweep on over the ocean, leaving the earth in mid-Atlantic.

The Naval Observatory astronomers believe that little choice is afforded, and there is probably an even chance of



PATH OF COMING ECLIPSE

Which has just been calculated by astronomers at the U. S. Naval Observatory.

clear weather at any point along the path from the St. Lawrence River to the coast.

Another chart in the supplement shows the stars and planets that will be visible near the eclipsed sun. The planet Jupiter will shine brilliantly just to the right, and a little farther over will be the star Regulus and the planet Mercury. The star Spica will appear at a somewhat greater distance to the left, and two second magnitude stars, Denebola and Alpheratz, will be above and below.

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ENGINEERING

Jordan River, Ideal for Power, Is Made to Yield Electricity

PALESTINE is being modernized. With the completion of three hydro-electric power stations now being erected on the historic river Jordan, with the ribbing of the long, narrow valley of the Holy Land with concrete canals, and the utilization for a storage reservoir of the Sea of Galilee on whose waters Christ walked two milleniums ago, the Holy Land is becoming modern and industrial.

The Jordan is readily adaptable to hydro-electric power, with its 3,000-foot drop from its source on Mount Hermon to its mouth in the Dead Sea, a saline lake 1,300 feet below the level of the Mediterranean and farther be-

low the sea level than any other body of water in the world. And with the diversion of seasonal flood waters of the Yarmuk and the Jordan rivers into the Sea of Galilee as a huge reservoir, and with the building of suitable dams and canals, 5,000,000 tons of water will be at the disposal of engineers every day during both the wet and dry seasons. These three power stations will total 48,000 horsepower output, and are the first step in a plan for the complete electrification of Palestine.

The first of these power stations is now completed at Jisr-el-Mujameh, drawing its water power from a canal carrying waters from the Yarmuk River,

a tributary to the Jordan. This station delivers 18,000 horsepower in electricity, with provisions for doubling this amount.

All three power plants will be joined together to supply the needs of every city, town, and agricultural settlement in Palestine, and while the plants are privately owned the government is to regulate the charges in a manner similar to the way public utilities are regulated in the United States.

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OCEANOGRAPHY

No Ice in North Atlantic; Ice Charts not Published

LACK OF BUSINESS has caused the suspension of another publication; but for once regrets are not in order. The suspended publication is the Ice Supplement to the North Atlantic Pilot Chart, usually published throughout late spring and summer, to inform transatlantic shipping regarding the number and distribution of icebergs in steamer lanes. So far this year not a single iceberg has reached the steamer tracks, so that the Ice Supplement has nothing to report, and has been suspended until conditions again justify its publication.

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Some of the swords and daggers used by Mayan Indians in Yucatan were of cholul wood, which is extremely hard.

ARCHAEOLOGY

New Type of Prehistoric Indians Found in Texas

Scientist Forced to Crawl Through Long Narrow Cave And Labor in Dust to Bring Out Relics of Tribe

A NEW TYPE of prehistoric Indian life has been discovered by F. M. Setzler, of the U. S. National Museum, as a result of an exciting adventure in Texas cave exploration.

The Museum received word of an Indian cradle remarkably different from the run of ancient American cradles. The cradle had been found within this cave in the Big Bend region of Texas. Mr. Setzler set out to explore and has returned to Washington, having succeeded in removing from the cave a collection of articles which belonged to the cavern dwellers. The objects were obtained under difficulties such as are rarely encountered even by adventurous archaeologists.

The cave opening had been almost closed by falling boulders, and more boulders still hang at precarious angles ready to crash down when some key-stone slips. To enter the cave it was necessary to crawl twenty feet down a passage no more than two feet high. Rattlesnakes, scorpions and rats were the

present-day inhabitants of the cave, the archaeologist soon found. Dust in the cavern chamber was so thick that dust masks had to be worn, and even then the dust sifted through the masks after a short time in the chamber.

No lantern could be kept lighted in this dust-laden air. Flashlights were more successful. They lighted up a small circle of the darkness, sufficiently to allow Mr. Setzler and four Mexican laborers to dig and remove dirt from the cave. The four-foot layer of earth containing the remains of the cave's ancient inhabitants was excavated and examined by the archaeologist himself, and then five feet of earth below that was dug up, on the chance that it might contain small objects or bones of animals. This dirt was transported out of the cave by a bucket brigade. As each bucket load was ready, one man passed it to the next along the low, cramped passage-way until it was finally outside, where it could be sifted, in order to salvage any remaining small relics or bones.

The articles which the cavern contained are cradles, baskets, pieces of matting, sandals. The poorly preserved bones of a child were the only human remains discovered. No trace of European objects, or anything to indicate that these people had ever encountered Europeans appeared. The articles found are different from those made by any known Indian tribe. The fact that the cave inhabitants had baskets but no pottery suggests that they may have been contemporaries of the Basket Maker Indians who lived in the Southwest about the time of Christ and perhaps for two thousand years before. Pottery was introduced at the close of the Basket Maker era, about the time the Pueblo tribes came into the Southwest.

Who the newly discovered people were, and whether they were related to the Basket Makers or to Mexican Indians or to tribes from the east, remains for science to determine. Texas prehistory is comparatively little explored as yet, Mr. Setzler pointed out.

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ON THE BANKS OF THE JORDAN RIVER

The new 18,000 horsepower hydro-electric plant at Jisr-el-Mujameh, one of three projects that will supply the Holy Land with abundant power for agriculture and manufacturing.